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<120> Truncated Reelin Protein and DNA Encoding the Same

<130> PH-1167

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<150> JP 2000-109954

<151> 2000-04-11

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<170> PatentIn Ver. 2.0

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<212> DNA

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atgaagaaAG ctcattaAGA acagtggGAC ccAGGA atG gAA CTG CTC cac acc 174

Met Glu Leu Leu His Thr

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ttc tgc ggt ggg cgc tgg act ttG CTG CTC TTC acG ggg ATC ttG tGC 222

Phe Cys Gly Gly Arg Trp Thr Leu Leu Leu Phe Thr Gly Ile Leu Cys

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Phe Val Val Ala Arg Gly Val Gly Tyr Tyr Pro Arg Phe Ser Pro Phe

25

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35

ttt ttc ctt tgc act cat cat gga gaa ctg gaa gga gat ggg gaa caa 318
Phe Phe Leu Cys Thr His His Gly Glu Leu Glu Gly Asp Gly Glu Gin
40 45 50

gga gaa gtg ctc atc tct ctg cac ctg gcg ggc aac ccc agc tac tac 366
Gly Glu Val Leu Ile Ser Leu His Leu Ala Gly Asn Pro Ser Tyr Tyr
55 60 65 70

ata cct ggg cag gag tac cat gtg acc ata tcc act agt acc ttc ttt 414
Ile Pro Gly Gin Glu Tyr His Val Thr Ile Ser Thr Ser Thr Phe Phe
75 80 85

gat ggt ctt ctg gtg act gga ctt tac act tct acc agt gtt caa gcg 462
Asp Gly Leu Leu Val Thr Gly Leu Tyr Thr Ser Thr Ser Val Gin Ala
90 95 100

tct cag agc att gga ggc tct aaa gca ttt gga ttt ggt att atg agc 510
Ser Gin Ser Ile Gly Gly Ser Lys Ala Phe Gly Phe Gly Ile Met Ser
105 110 115

gac cgt cag ttt ggt acc cag ttt atg tgc agt gtc gtt gct tcc cac 558
Asp Arg Gin Phe Gly Thr Gin Phe Met Cys Ser Val Val Ala Ser His
120 125 130

gtg agt cat ctt ccc aca aca aac cta agt ttt gta tgg att gca cca 606
Val Ser His Leu Pro Thr Thr Asn Leu Ser Phe Val Trp Ile Ala Pro
135 140 145 150

cca gca ggt aca gga tgt gtc aac ttc atg gcc aca gca aca cat agg 654

Pro Ala Gly Thr Gly Cys Val Asn Phe Met Ala Thr Ala Thr His Arg

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Gly Gln Val Ile Phe Lys Asp Ala Leu Ala Gln Gln Leu Cys Glu Gln

170 175 180

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Gly Ala Pro Thr Glu Ala Pro Leu Arg Pro Asn Leu Ala Glu Ile His

185 190 195

agt gaa agc atc ctt tta cga gat gat ttt gac tca tat aag ctt cag 798

Ser Glu Ser Ile Leu Leu Arg Asp Asp Phe Asp Ser Tyr Lys Leu Gln

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gaa ttg aat cca aat att tgg ctc cag tgc aga aat tgc gaa gtt ggt 846

Glu Leu Asn Pro Asn Ile Trp Leu Gln Cys Arg Asn Cys Glu Val Gly

215 220 225 230

gag cag tgt ggt gca att atg cat ggt ggg gca gtc act ttt tgt gat 894

Glu Gln Cys Gly Ala Ile Met His Gly Gly Ala Val Thr Phe Cys Asp

235 240 245

ccg tat gga cca aga gaa ttg ata act gtt caa atg aac aca act acg 942

Pro Tyr Gly Pro Arg Glu Leu Ile Thr Val Gln Met Asn Thr Thr Thr

250 255 260

gca tct gtt ttg cag ttt tct att ggg tca gga tcg tgc agg ttc agc 990

Ala Ser Val Leu Gln Phe Ser Ile Gly Ser Gly Ser Cys Arg Phe Ser

265

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275

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Tyr Ser Asp Pro Gly Ile Val Val Ser Tyr Thr Lys Asn Asn Ser Ser

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agt tgg atg cca ttg gag aga att agt gct cct tcc aat gtt agc acc 1086
 Ser Trp Met Pro Leu Glu Arg Ile Ser Ala Pro Ser Asn Val Ser Thr
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atc att cac att att tac cta cct cct gaa gct aaa gga gaa aat gtg 1134
 Ile Ile His Ile Ile Tyr Leu Pro Pro Glu Ala Lys Gly Glu Asn Val
 315 320 325

aaa ttc cgt tgg agg cag gag aac atg cag gca ggt gat gtg tat gaa 1182
Lys Phe Arg Trp Arg Gln Glu Asn Met Gln Ala Gly Asp Val Tyr Glu
330 335 340

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Ala Cys Trp Ala Leu Asp Asn Ile Leu Ile Ile Asn Ala Ala His Lys

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 Glu Val Val Leu Glu Asp Asn Leu Asp Pro Met Asp Thr Gly Asn Trp
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cct ttt ttc cct ggg gct act gta aag cat acc tgt cag tcg gat gga 1326
 Leu Phe Phe Pro Gly Ala Thr Val Lys His Thr Cys Gln Ser Asp Gly
 375 380 385 390

aac tct ata tat ttt cat ggt aca gaa agc agt gaa tac aac ttt gct 1374
Asn Ser Ile Tyr Phe His Gly Thr Glu Ser Ser Glu Tyr Asn Phe Ala
395 400 405

act acc aga gat gtg gat ctt tcc agt gag gac atc cag gac cag tgg 1422
Thr Thr Arg Asp Val Asp Leu Ser Ser Glu Asp Ile Gln Asp Gln Trp
410 415 420

tct gaa gag ttt gag aat cta cca gct ggg taa attttagatg tagccatgag 1475
Ser Glu Glu Phe Glu Asn Leu Pro Ala Gly
425 430

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<212> PRT

<213> Xenopus laevis

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20

25

30

Pro Arg Phe Ser Pro Phe Phe Phe Leu Cys Thr His His Gly Glu Leu

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40

45

Glu Gly Asp Gly Glu Gln Gly Glu Val Leu Ile Ser Leu His Leu Ala

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Gly Asn Pro Ser Tyr Tyr Ile Pro Gly Gln Glu Tyr His Val Thr Ile

65 70 75 80

Ser Thr Ser Thr Phe Phe Asp Gly Leu Leu Val Thr Gly Leu Tyr Thr

85 90 95

Ser Thr Ser Val Gln Ala Ser Gln Ser Ile Gly Gly Ser Lys Ala Phe

100 105 110

Gly Phe Gly Ile Met Ser Asp Arg Gln Phe Gly Thr Gln Phe Met Cys

115 120 125

Ser Val Val Ala Ser His Val Ser His Leu Pro Thr Thr Asn Leu Ser

130 135 140

Phe Val Trp Ile Ala Pro Pro Ala Gly Thr Gly Cys Val Asn Phe Met

145 150 155 160

Ala Thr Ala Thr His Arg Gly Gln Val Ile Phe Lys Asp Ala Leu Ala

165 170 175

Gln Gln Leu Cys Glu Gln Gly Ala Pro Thr Glu Ala Pro Leu Arg Pro

180 185 190

Asn Leu Ala Glu Ile His Ser Glu Ser Ile Leu Leu Arg Asp Asp Phe

195 200 205

Asp Ser Tyr Lys Leu Gln Glu Leu Asn Pro Asn Ile Trp Leu Gln Cys

210 215 220

Arg Asn Cys Glu Val Gly Glu Gln Cys Gly Ala Ile Met His Gly Gly

225 230 235 240

Ala Val Thr Phe Cys Asp Pro Tyr Gly Pro Arg Glu Leu Ile Thr Val

245 250 255

Gln Met Asn Thr Thr Ala Ser Val Leu Gln Phe Ser Ile Gly Ser

260 265 270

Gly Ser Cys Arg Phe Ser Tyr Ser Asp Pro Gly Ile Val Val Ser Tyr

275 280 285

Thr Lys Asn Asn Ser Ser Ser Trp Met Pro Leu Glu Arg Ile Ser Ala

290 295 300

Pro Ser Asn Val Ser Thr Ile Ile His Ile Ile Tyr Leu Pro Pro Glu

305 310 315 320

Ala Lys Gly Glu Asn Val Lys Phe Arg Trp Arg Gln Glu Asn Met Gln

325 330 335

Ala Gly Asp Val Tyr Glu Ala Cys Trp Ala Leu Asp Asn Ile Leu Ile

340 345 350

Ile Asn Ala Ala His Lys Glu Val Val Leu Glu Asp Asn Leu Asp Pro

355 360 365

Met Asp Thr Gly Asn Trp Leu Phe Phe Pro Gly Ala Thr Val Lys His

370 375 380

Thr Cys Gln Ser Asp Gly Asn Ser Ile Tyr Phe His Gly Thr Glu Ser

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Ser Glu Tyr Asn Phe Ala Thr Thr Arg Asp Val Asp Leu Ser Ser Glu

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cgcgcgcggc tcgccttccc cgcacgcggc tcctccgtgc cggtgccctcc gaaagtggat 240

gagagagcgc gcggggcgcg cggcggcacg gagcgcggcg gc atg gag cgc ggc 294

Met Glu Arg Gly

1

tgc tgg gcg ccg cgg gct ctc gtc ctg gcc gtg ctg ctg ctg ctg gcg 342

Cys Trp Ala Pro Arg Ala Leu Val Leu Ala Val Leu Leu Leu Ala

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15

20

acg ctg agg gcg cgc gcg gcc acc ggc tac tac ccg cgc ttc tcg cct 390

Thr Leu Arg Ala Arg Ala Ala Thr Gly Tyr Tyr Pro Arg Phe Ser Pro

25

30

35

ttc ttt ttc ctg tgc acc cac cac ggg gag ctg gaa ggg gat ggg gag 438
Phe Phe Phe Leu Cys Thr His His Gly Glu Leu Glu Gly Asp Gly Glu
40 45 50

cag ggc gag gtg ctc att tcc ctg cac att gcg ggc aac ccc acc tac 486
Gln Gly Glu Val Leu Ile Ser Leu His Ile Ala Gly Asn Pro Thr Tyr
55 60 65

tac gta ccg gga cag gaa tac cat gtt aca att tca aca agc acc ttc 534
Tyr Val Pro Gly Gln Glu Tyr His Val Thr Ile Ser Thr Ser Thr Phe
70 75 80

ttt gat ggc ttg ctg gtg acg gga ctc tat acc tcg aca agc atc cag 582
Phe Asp Gly Leu Leu Val Thr Gly Leu Tyr Thr Ser Thr Ser Ile Gln
85 90 95 100

tct tct cag agc att gga ggc tcc agc gcc ttt gga ttc ggg atc atg 630
Ser Ser Gln Ser Ile Gly Gly Ser Ser Ala Phe Gly Phe Gly Ile Met
105 110 115

tcc gac cac cag ttt ggt aac cag ttt atg tgc agt gtg gtg gcc tct 678
Ser Asp His Gln Phe Gly Asn Gln Phe Met Cys Ser Val Val Ala Ser
120 125 130

cat gtg agt cac ctg cct aca acc aac ctc agc ttt gtc tgg att gcc 726
His Val Ser His Leu Pro Thr Thr Asn Leu Ser Phe Val Trp Ile Ala
135 140 145

cca cca gct ggc aca ggc tgt gtg aat ttc atg gct act gca aca cat 774

Pro Pro Ala Gly Thr Gly Cys Val Asn Phe Met Ala Thr Ala Thr His
150 155 160

agg ggc cag gtg att ttc aaa gac gca ctg gcc cag ctg tgt gaa 822
Arg Gly Gln Val Ile Phe Lys Asp Ala Leu Ala Gln Gln Leu Cys Glu
165 170 175 180

caa gga gct ccc aca gag gcc act gct tac tcg cac ctt gct gaa ata 870
Gln Gly Ala Pro Thr Glu Ala Thr Ala Tyr Ser His Leu Ala Glu Ile
185 190 195

cac agt gac agt gtg atc cta cga gat gac ttt gac tcc tac cag caa 918
His Ser Asp Ser Val Ile Leu Arg Asp Asp Phe Asp Ser Tyr Gln Gln
200 205 210

ctg gaa ttg aac ccc aac ata tgg gtt gaa tgc agc aac tgt gag atg 966
Leu Glu Leu Asn Pro Asn Ile Trp Val Glu Cys Ser Asn Cys Glu Met
215 220 225

gga gag cag tgt ggc acc atc atg cat ggc aat gct gtc acc ttc tgt 1014
Gly Glu Gln Cys Gly Thr Ile Met His Gly Asn Ala Val Thr Phe Cys
230 235 240

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Glu Pro Tyr Gly Pro Arg Glu Leu Thr Thr Cys Leu Asn Thr Thr
245 250 255 260

aca gca tct gtc ctc cag ttt tcc att ggg tca gga tca tgt cga ttt 1110
Thr Ala Ser Val Leu Gln Phe Ser Ile Gly Ser Gly Ser Cys Arg Phe

265 270 275

agt tac tct gac ccc agc atc act gtg tca tac gcc aag aac aat acc 1158
Ser Tyr Ser Asp Pro Ser Ile Thr Val Ser Tyr Ala Lys Asn Asn Thr
280 285 290

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Ala Asp Trp Ile Gln Leu Glu Lys Ile Arg Ala Pro Ser Asn Val Ser
295 300 305

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Thr Val Ile His Ile Leu Tyr Leu Pro Glu Glu Ala Lys Gly Glu Ser
310 315 320

gtg cag ttc cag tgg aaa cag gac agc ctg cga gtg ggt gag gtg tat 1302
Val Gln Phe Gln Trp Lys Gln Asp Ser Leu Arg Val Gly Glu Val Tyr
325 330 335 340

gag gcc tgc tgg gcc ctg gat aac atc ctg gtc atc aat tca gcc cac 1350
Glu Ala Cys Trp Ala Leu Asp Asn Ile Leu Val Ile Asn Ser Ala His
345 350 355

aga gaa gtc gtt ctg gag gac aac ctc gac ccg gtc gac acg ggc aac 1398
Arg Glu Val Val Leu Glu Asp Asn Leu Asp Pro Val Asp Thr Gly Asn
360 365 370

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Trp Leu Phe Phe Pro Gly Ala Thr Val Lys His Ser Cys Gln Ser Asp
375 380 385

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Gly Asn Ser Ile Tyr Phe His Gly Asn Glu Gly Ser Glu Phe Asn Phe			
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gcc acc acc cgg gat gta gat ctt tct aca gag gat att caa gag cag			1542
Ala Thr Thr Arg Asp Val Asp Leu Ser Thr Glu Asp Ile Gln Glu Gln			
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Trp Ser Glu Glu Phe Glu Ser Gln Pro Thr Gly Trp Asp Ile Leu Gly			
425	430	435	
gca gta gtt ggt gca gac tgt gga acc gta gaa tca gga cta tca ctg			1638
Ala Val Val Gly Ala Asp Cys Gly Thr Val Glu Ser Gly Leu Ser Leu			
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gtg ttc ctc aaa gat gga gag agg aag ctt tgc acc ccc tac atg gat			1686
Val Phe Leu Lys Asp Gly Glu Arg Lys Leu Cys Thr Pro Tyr Met Asp			
455	460	465	
aca act ggt tat ggc aac ctg agg ttc tac ttc gtt atg gga gga atc			1734
Thr Thr Gly Tyr Gly Asn Leu Arg Phe Tyr Phe Val Met Gly Gly Ile			
470	475	480	
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Cys Asp Pro Gly Val Ser His Glu Asn Asp Ile Ile Leu Tyr Ala Lys			
485	490	495	500

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Ile Glu Gly Arg Lys Glu His Ile Ala Leu Asp Thr Leu Thr Tyr Ser
505 510 515

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Ser Tyr Lys Val Pro Ser Leu Val Ser Val Val Ile Asn Pro Glu Leu
520 525 530

cag aca cct gcc acc aaa ttt tgt ctc agg caa aag agc cac caa ggg 1926
Gln Thr Pro Ala Thr Lys Phe Cys Leu Arg Gln Lys Ser His Gln Gly
535 540 545

tat aat cgg aat gtc tgg gct gtg gac ttc ttc cat gtg ctg ccc gtt 1974
Tyr Asn Arg Asn Val Trp Ala Val Asp Phe Phe His Val Leu Pro Val
550 555 560

ctc cct tca aca atg tct cac atg atc cag ttt tct att aat ttg gga 2022
Leu Pro Ser Thr Met Ser His Met Ile Gln Phe Ser Ile Asn Leu Gly
565 570 575 580

tgc ggc aca cac cag cct ggg aac agg tga gaagcatgcc gagtgtccta 2072
Cys Gly Thr His Gln Pro Gly Asn Arg
585 590

acatggtagg aaataaacac atgcactgga ccattgaagt aagtttgtca gtaggat 2132

tggatggat tttcacaaaa tatccattaa gaaaatacag attcctactc cctccctaaa 2192
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30

Arg Phe Ser Pro Phe Phe Phe Leu Cys Thr His His Gly Glu Leu Glu

35

40

45

Gly Asp Gly Glu Gln Gly Glu Val Leu Ile Ser Leu His Ile Ala Gly

50

55

60

Asn Pro Thr Tyr Tyr Val Pro Gly Gln Glu Tyr His Val Thr Ile Ser

65

70

75

80

Thr Ser Thr Phe Phe Asp Gly Leu Leu Val Thr Gly Leu Tyr Thr Ser

85

90

95

Thr Ser Ile Gln Ser Ser Gln Ser Ile Gly Gly Ser Ser Ala Phe Gly

100

105

110

Phe Gly Ile Met Ser Asp His Gln Phe Gly Asn Gln Phe Met Cys Ser

115

120

125

Val Val Ala Ser His Val Ser His Leu Pro Thr Thr Asn Leu Ser Phe

130

135

140

Val Trp Ile Ala Pro Pro Ala Gly Thr Gly Cys Val Asn Phe Met Ala

145

150

155

160

Thr Ala Thr His Arg Gly Gln Val Ile Phe Lys Asp Ala Leu Ala Gln

165

170

175

Gln Leu Cys Glu Gln Gly Ala Pro Thr Glu Ala Thr Ala Tyr Ser His

180 185 190

Leu Ala Glu Ile His Ser Asp Ser Val Ile Leu Arg Asp Asp Phe Asp

195 200 205

Ser Tyr Gln Gln Leu Glu Leu Asn Pro Asn Ile Trp Val Glu Cys Ser

210 215 220

Asn Cys Glu Met Gly Glu Gln Cys Gly Thr Ile Met His Gly Asn Ala

225 230 235 240

Val Thr Phe Cys Glu Pro Tyr Gly Pro Arg Glu Leu Thr Thr Cys

245 250 255

Leu Asn Thr Thr Ala Ser Val Leu Gln Phe Ser Ile Gly Ser Gly

260 265 270

Ser Cys Arg Phe Ser Tyr Ser Asp Pro Ser Ile Thr Val Ser Tyr Ala

275 280 285

Lys Asn Asn Thr Ala Asp Trp Ile Gln Leu Glu Lys Ile Arg Ala Pro

290 295 300

Ser Asn Val Ser Thr Val Ile His Ile Leu Tyr Leu Pro Glu Glu Ala

305 310 315 320

Lys Gly Glu Ser Val Gln Phe Gln Trp Lys Gln Asp Ser Leu Arg Val

325 330 335

Gly Glu Val Tyr Glu Ala Cys Trp Ala Leu Asp Asn Ile Leu Val Ile

340 345 350

Asn Ser Ala His Arg Glu Val Val Leu Glu Asp Asn Leu Asp Pro Val

355 360 365

Asp Thr Gly Asn Trp Leu Phe Phe Pro Gly Ala Thr Val Lys His Ser

370 375 380

Cys Gin Ser Asp Gly Asn Ser Ile Tyr Phe His Gly Asn Glu Gly Ser

385 390 395 400

Glu Phe Asn Phe Ala Thr Thr Arg Asp Val Asp Leu Ser Thr Glu Asp

405 410 415

Ile Gin Glu Gin Trp Ser Glu Glu Phe Glu Ser Gin Pro Thr Gly Trp

420 425 430

Asp Ile Leu Gly Ala Val Val Gly Ala Asp Cys Gly Thr Val Glu Ser

435 440 445

Gly Leu Ser Leu Val Phe Leu Lys Asp Gly Glu Arg Lys Leu Cys Thr

450 455 460

Pro Tyr Met Asp Thr Thr Gly Tyr Gly Asn Leu Arg Phe Tyr Phe Val

465 470 475 480

Met Gly Gly Ile Cys Asp Pro Gly Val Ser His Glu Asn Asp Ile Ile
485 490 495

Leu Tyr Ala Lys Ile Glu Gly Arg Lys Glu His Ile Ala Leu Asp Thr
500 505 510

Leu Thr Tyr Ser Ser Tyr Lys Val Pro Ser Leu Val Ser Val Val Ile
515 520 525

Asn Pro Glu Leu Gln Thr Pro Ala Thr Lys Phe Cys Leu Arg Gln Lys
530 535 540

Ser His Gln Gly Tyr Asn Arg Asn Val Trp Ala Val Asp Phe Phe His
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Val Leu Pro Val Leu Pro Ser Thr Met Ser His Met Ile Gln Phe Ser
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<210> 7

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